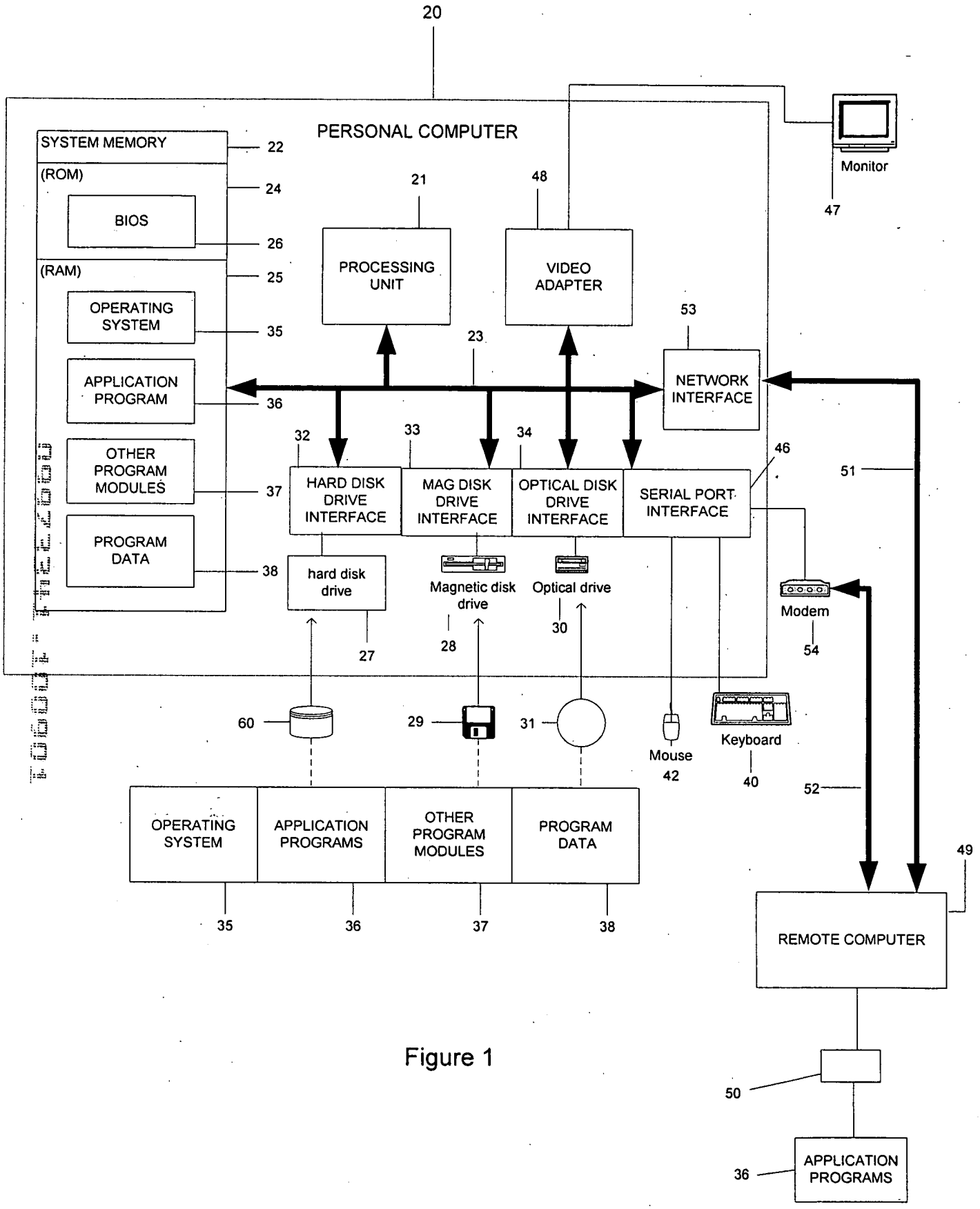
20
PERSONAL COMPUTER
SYSTEM MEMORY
22
(ROM)
24
BIOS
26
(RAM)
25
OPERATING SYSTEM
35
APPLICATION PROGRAM
36
OTHER PROGRAM MODULES
37
PROGRAM DATA
38
21
PROCESSING UNIT
48
VIDEO ADAPTER
Monitor
47
53
NETWORK INTERFACE
23
32
33
34
HARD DISK DRIVE INTERFACE
MAG DISK DRIVE INTERFACE
OPTICAL DISK DRIVE INTERFACE
SERIAL PORT INTERFACE
46
51
hard disk drive
27
Magnetic disk drive
28
Optical drive
30
Modem
54
60
29
31
Mouse
42
Keyboard
40
52
OPERATING SYSTEM
APPLICATION PROGRAMS
OTHER PROGRAM MODULES
PROGRAM DATA
35
36
37
38
49
REMOTE COMPUTER
50
36
APPLICATION PROGRAMS

Figure 1

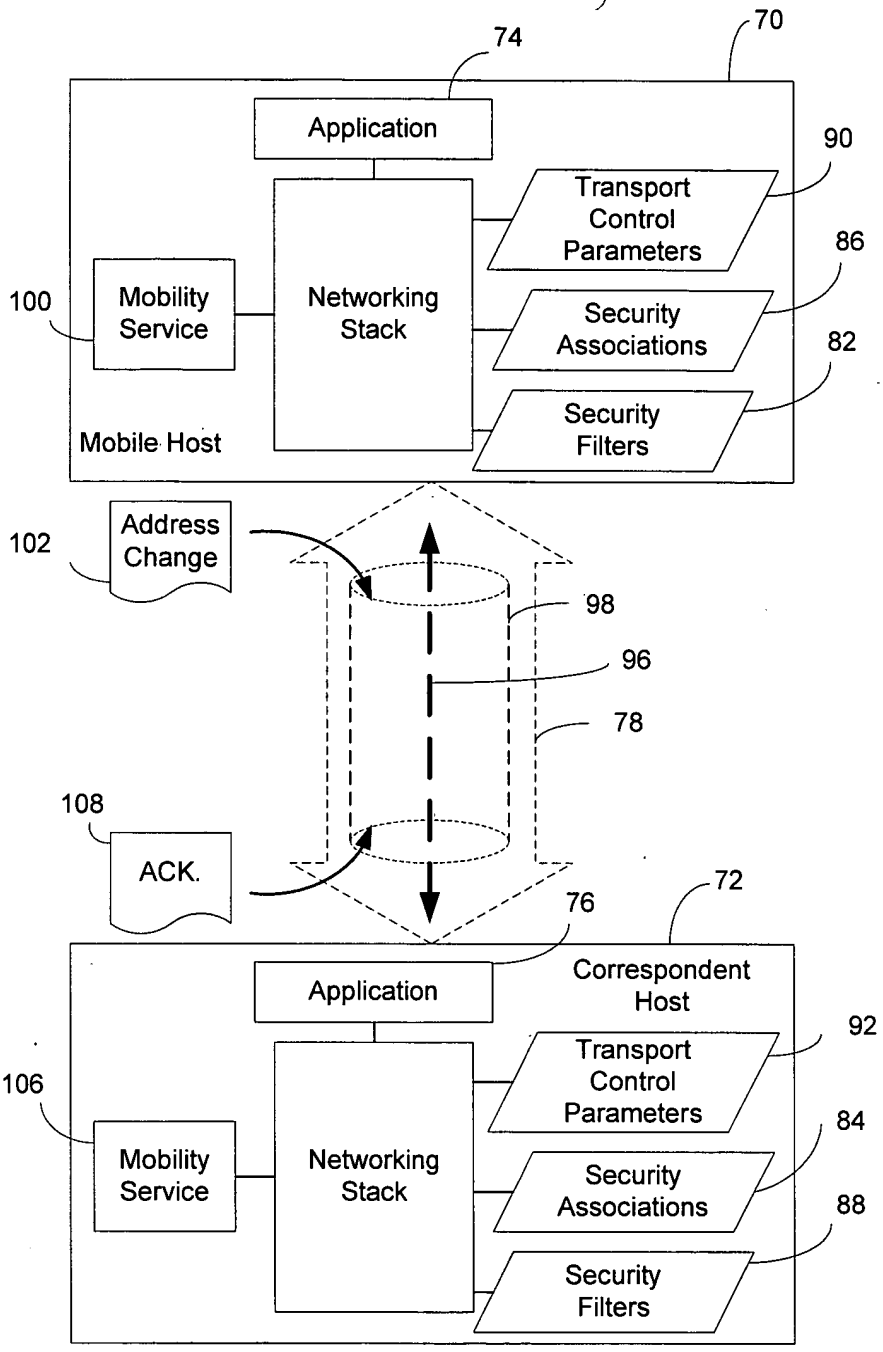
74
70
Application
90
Transport Control Parameters
86
100
Mobility Service
Networking Stack
Security Associations
82
Security Filters
Mobile Host
102
Address Change
98
96
78
108
ACK.
76
72
Application
Correspondent Host
92
Transport Control Parameters
106
Mobility Service
Networking Stack
84
Security Associations
88
Security Filters

FIG. 2

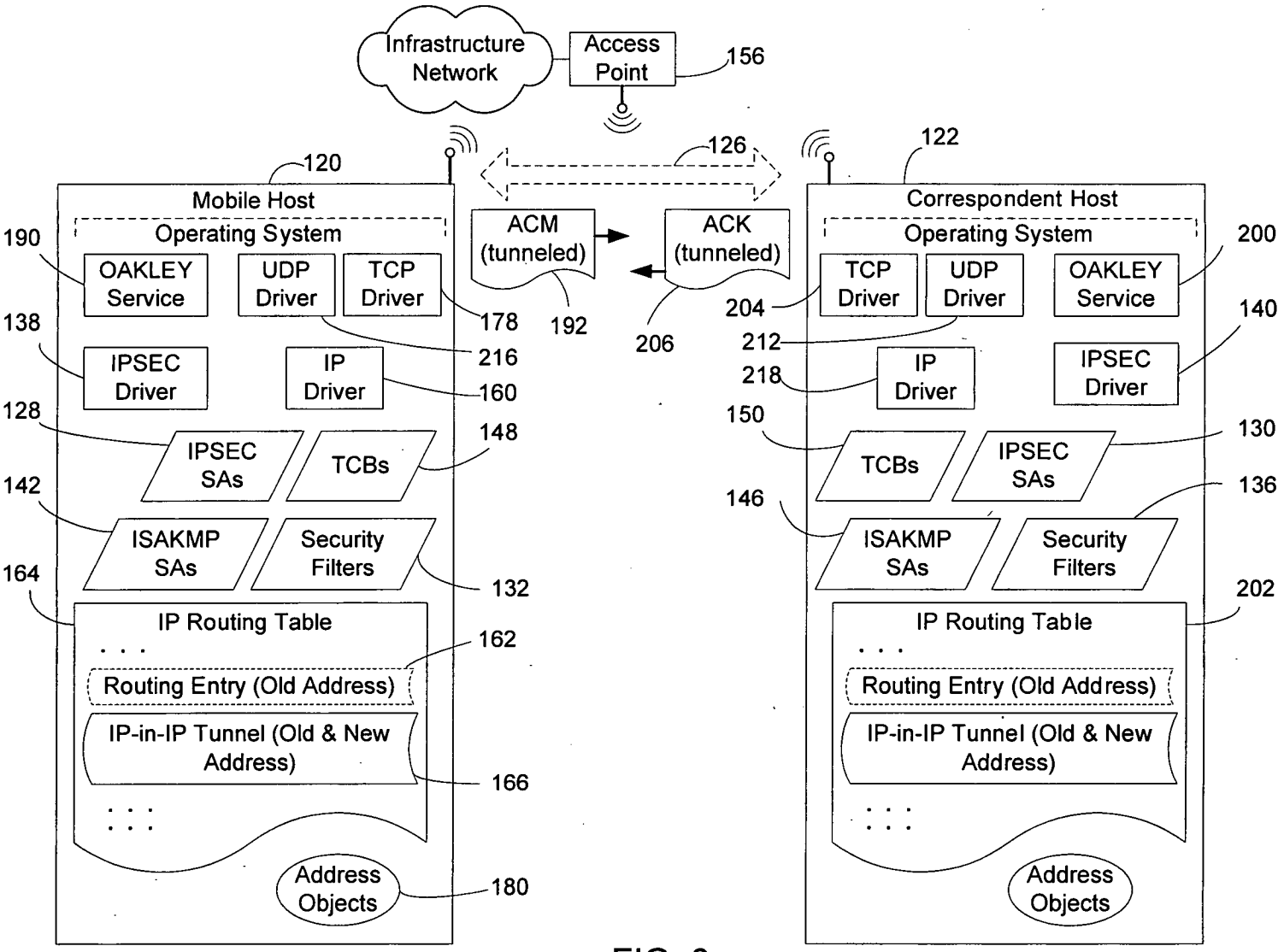
Infrastructure Network
Access Point
156
120
126
122
Mobile Host
Correspondent Host
Operating System
Operating System
190
200
ACM (tunneled)
ACK (tunneled)
OAKLEY Service
UDP Driver
TCP Driver
TCP Driver
UDP Driver
OAKLEY Service
178
192
204
138
140
206
212
216
IPSEC Driver
IP Driver
IP Driver
IPSEC Driver
218
160
128
150
148
130
IPSEC SAs
TCBs
TCBs
IPSEC SAs
142
146
136
ISAKMP SAs
Security Filters
ISAKMP SAs
Security Filters
164
132
202
IP Routing Table
IP Routing Table
162
Routing Entry (Old Address)
Routing Entry (Old Address)
IP-in-IP Tunnel (Old & New Address)
IP-in-IP Tunnel (Old & New Address)
166
Address Objects
180
Address Objects

FIG. 3

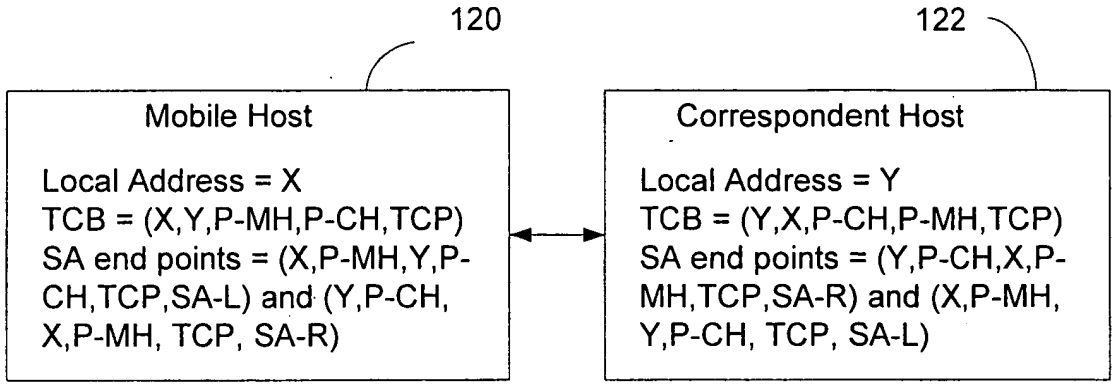
120
122
Mobile Host
Local Address = X
TCB = (X,Y,P-MH,P-CH,TCP)
SA end points = (X,P-MH,Y,P-CH,TCP,SA-L) and (Y,P-CH, X,P-MH, TCP, SA-R)
Correspondent Host
Local Address = Y
TCB = (Y,X,P-CH,P-MH,TCP)
SA end points = (Y,P-CH,X,P-MH,TCP,SA-R) and (X,P-MH, Y,P-CH, TCP, SA-L)

FIG. 4A

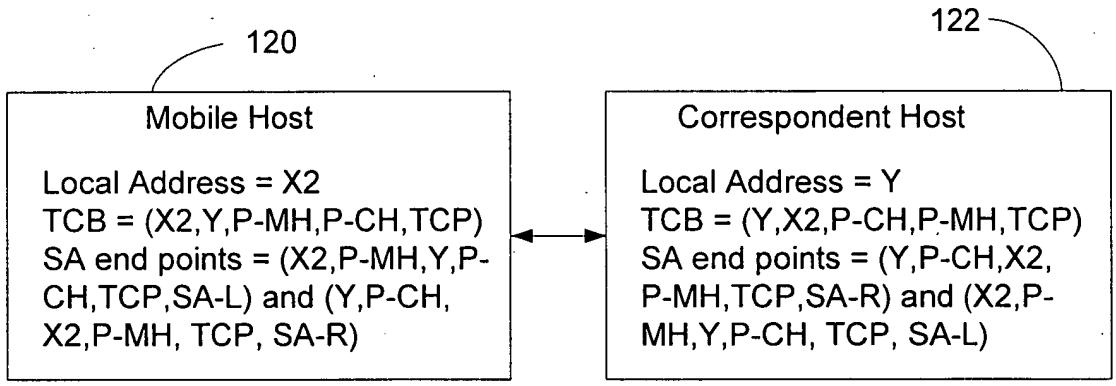
120
122
Mobile Host
Local Address = X2
TCB = (X2,Y,P-MH,P-CH,TCP)
SA end points = (X2,P-MH,Y,P-CH,TCP,SA-L) and (Y,P-CH, X2,P-MH, TCP, SA-R)
Correspondent Host
Local Address = Y
TCB = (Y,X2,P-CH,P-MH,TCP)
SA end points = (Y,P-CH,X2, P-MH,TCP,SA-R) and (X2,P-MH,Y,P-CH, TCP, SA-L)

FIG. 4B

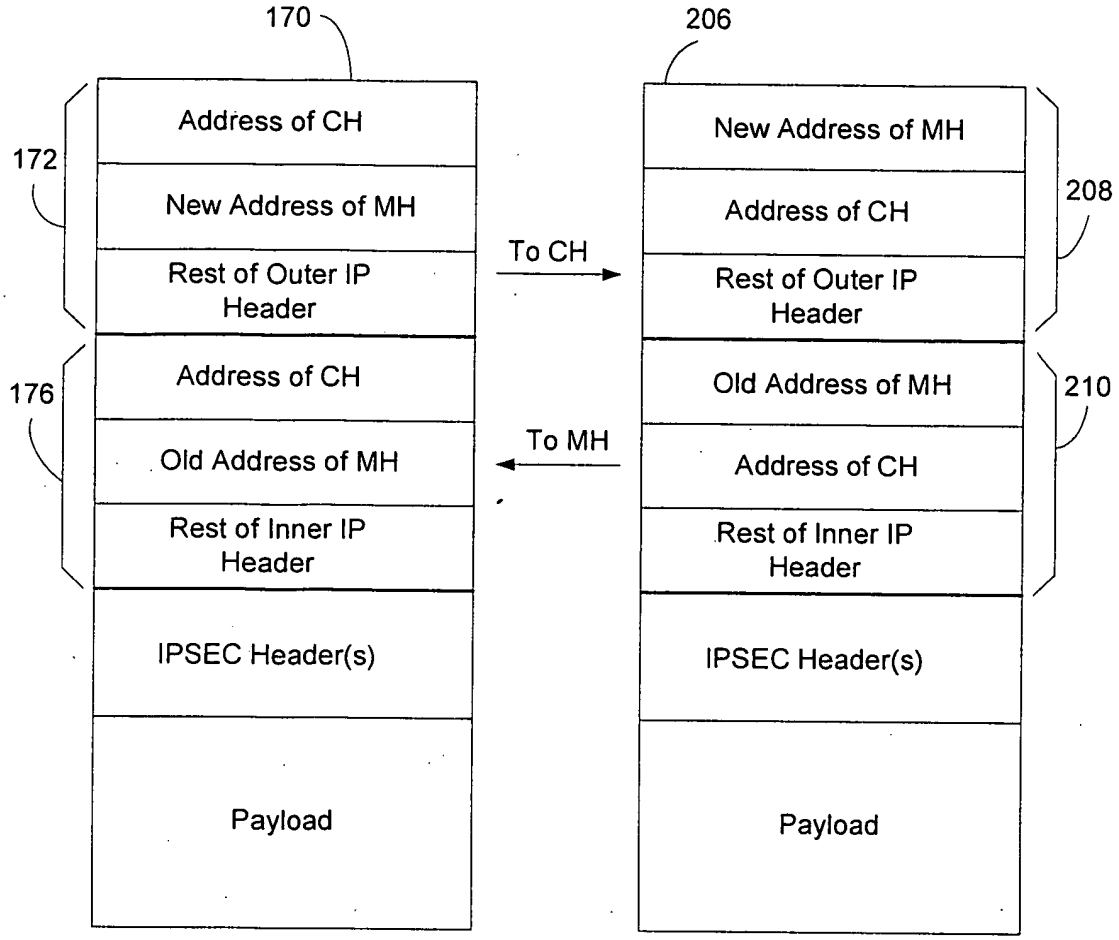
170
206
Address of CH
New Address of MH
Rest of Outer IP Header
Address of CH
Old Address of MH
Rest of Inner IP Header
IPSEC Header(s)
Payload
172
176
To CH
To MH
New Address of MH
Address of CH
Rest of Outer IP Header
Old Address of MH
Address of CH
Rest of Inner IP Header
IPSEC Header(s)
Payload
208
210

FIG. 5